

A REVISED KEY TO THE SPECIES OF *PSILOPSOCUS* ENDERLEIN (PSOCOPTERA: PSILOPSOCIDAE) WITH NEW RECORDS OF *PS. MIMULUS* SMITHERS, A PROBABLY PHRAGOMOTIC SPECIES

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Abstract

A revised key to the species of *Psilopsocus* Enderlein is provided. New records for the uncommon, probably phragmotoc, Australian *Ps. mimulus* Sm. are given, extending its known range from The Crater, near Ravenshoe, Queensland, to the Shoalhaven River, New South Wales.

Introduction

Psilopsocus Enderlein includes six described species. Only one, *Psilopsocus mimulus* Smithers, has been recorded from Australia. Three are known from New Guinea, one from Manus Island, one from the Philippines and there is one additional undescribed species, known only from nymphal material, in South Africa.

Members of this genus are particularly interesting on account of the remarkable modification of the abdomen of the nymphs (Smithers 1963, fig. 9). The fifth segment onwards is somewhat swollen and has the apex very heavily sclerotized and truncate. The paraprocts and epiproct are in the form of simple plates which fit closely together, edge to edge, so covering the anus; this gives the end of the abdomen an appearance similar to that of a bostrychid beetle.

Adult psilopsocids are mostly relatively large (up to 5 mm wing length) with dark wings which have more or less complex patterns in various shades of brown. In the field they resemble members of the Myopsocidae but these can usually be distinguished by the pattern being made up of large numbers of small, irregular confluent spots and patches; in the psilopsocids the pattern is made up of fairly extensive irregular patches, most of which are not very clearly delineated.

Nothing is known of the life history of these insects but they usually occur on trees of which the bark shows evidence of wood borer activity. It seems likely that the modified apex of the abdomen of the nymph is an adaptation to living in and sealing wood borer tunnels. If this is so it is the only case of such phragmosis so far known in the Psocoptera.

Mockford (1961) pointed out the close relationship between *Psilopsocus* and the predominantly bark-dwelling Myopsocidae.

Ps. mimulus is not a common species. It was described from one very restricted locality at Lindfield, New South Wales. Repeated attempts to obtain more material from the same area have been unsuccessful. A few additional specimens have, however, been collected over the past fifteen years at other localities. The known range now extends from The Crater,

near Ravenshoe, Queensland, in the north to the Shoalhaven River, New South Wales, in the south.

NEW RECORDS. QUEENSLAND: 1 ♀, Woombye, near Nambour, 11-16.x.1965, D. H. Colless; 1 ♂, The Crater, Mt. Hypipamee, 21.xii.1972, C. N. Smithers and J. V. Peters. NEW SOUTH WALES: 1 nymph, Comerong Is., Shoalhaven River, 27.v.1976, G. A. Holloway; 2 ♂, 1 ♀, 3 nymphs, Couranga Track, Royal National Park, 10.xi.1976, G. A. Holloway; 1 nymph, Whipoorie, near Grafton, 16.v.1978, C. N. Smithers.

Smithers and Thornton (1973) gave a key to the species of *Psilopsocus* but the new material now available exhibits a variation in wing pattern which renders that key unreliable. A replacement key, revised to take account of this variation and including *Ps. manus* Smithers and Thornton, described since publication of the earlier key, is presented here.

Key to species of *Psilopsocus*

1. Median cells of fore wing uniformly coloured (Philippines) *nebulosus*
- Median cells of fore wing not uniformly coloured, with at least a submarginal pale spot 2
2. Ratio wing length: width greater than 3: 1 (Australia) *mimulus*
- Ratio wing length: width clearly less than 3: 1 3
3. Cell R_1 in distal half pale with a poorly defined, darker, elongate median mark 4
- Cell R_1 in distal half brown with a clearly defined pale or hyaline spot at or near wing margin 5
4. Fore wing 2.5-3.0 mm (Manus Is.) *manus*
- Fore wing 4.5-5.0 mm (New Guinea) *pulchripennis*
5. Cell M_2 dark with a pale area adjacent to wing margin only (New Guinea) *nigricornis*
- Cell M_2 dark with a pale spot adjacent to vein M_{1+2} in addition to pale area near wing margin (New Guinea) *marmoratus*

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References

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